Chapter 3

USACE Data Administration Procedures and Change Control

3-1. General

a. The activities involved in managing the Command Data Model (CDM) and thereby the Command Data Dictionary (CDD) are depicted in the following activity diagrams:

(1) The Context Diagram in Figure 3-1 (activity AO) represents the overall activity of managing Data Administration for the U.S. Army Corps of Engineers (USACE).

(2) Figure 3-2 is the decomposition or graphical representation of the AO subactivities performed to accomplish managing the USACE Data Administration activity.

(3) Figure 3-3, Activity Descriptions, lists the activity number, name, and description of activities displayed on the AO Decomposition Diagram.

(4) Figure 3-4, ICOM Descriptions, defines the Inputs, Controls, Outputs, and Mechanisms involved on the AO Decomposition Diagram.

b. There are three sources of change to the Command Data Model: Project Requirements discovered by an Information System Development Project, requests from users, and data administration technical requirements arising as the HQ Data Administration works to integrate all the field proposals. The first two are shown as inputs

on the left side of the activity model while the third is internal to activity A3.

c. A development project, shown as activity Al creates new entities and data elements as it proceeds, or it may wait until the end and submit a Project Final Model. Throughout the design process, the team will check the Encyclopedia to see if the CDM or some other project's data model has already discovered and defined the data they require. If so, they can arrange to share it.

d. The responsible data proponents participate in the reviews of development projects in activity Al and fulfill their responsibilities of managing the definition of the data in their assigned data classes.

e. The proposed changes that are not already addressed are forwarded to HQ Data Administration (activity A3) for QA and integration with the CDM and other proposed changes.

f. Any user of data may submit a request for change or addition to the appropriate data proponent who will revise and approve it (activity A2) and pass it on to the HQ Data Administration for integration. If the proponent rejects a user request, the user can "appeal" to the HQ DA directly.

g. In activity A3, the HQ Data Administrator accepts Project Final Models or the changes that have been approved by the proponents and checks them for standard adherence, quality definitions, appropriate entity placement of data elements, and nonredundancy. If they pass these QA checks, then they
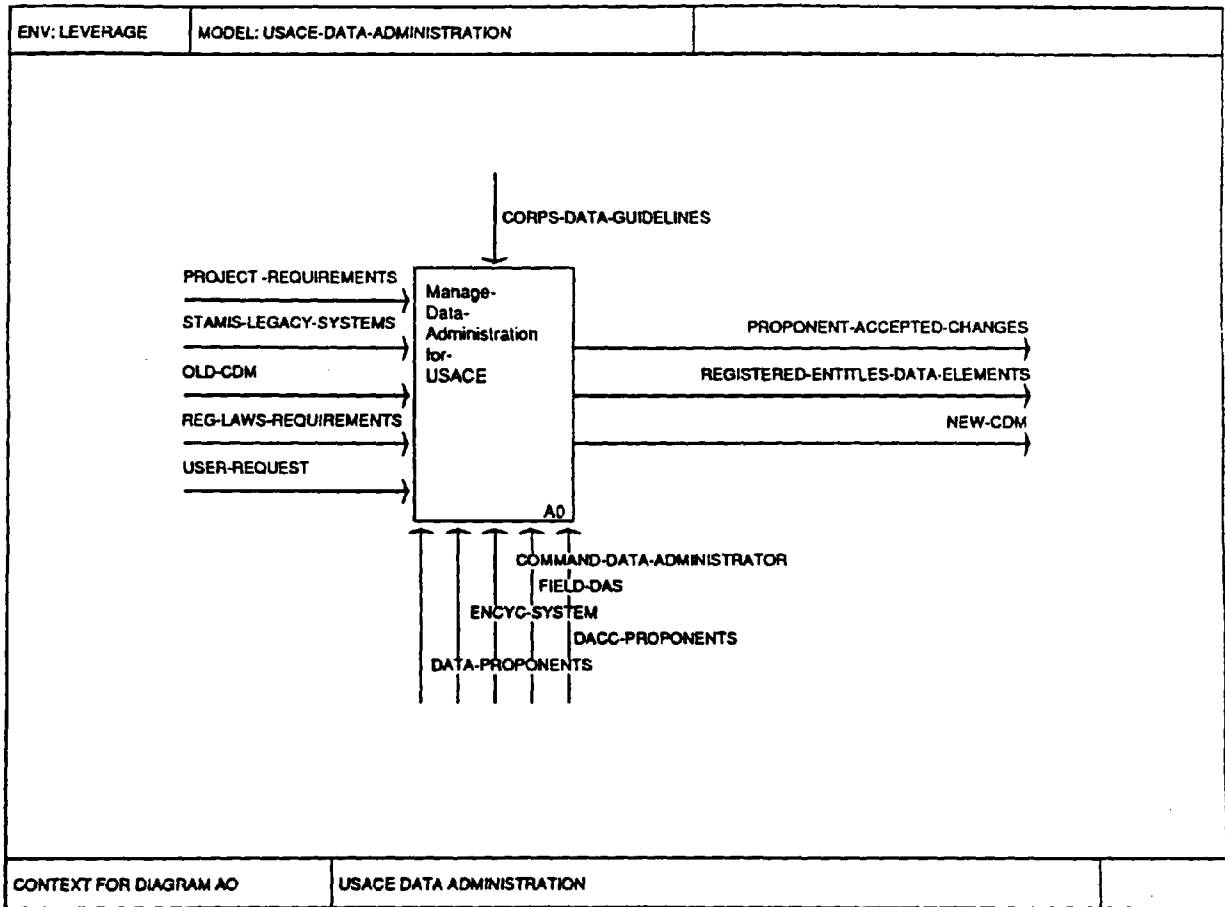
are sent to the Data Architecture Control Committee (DACC). The Command DBA will negotiate any conflicting proposals as much as possible to reach a suitable compromise. Any unsolved issues are forwarded to the DACC for resolution.

   h.   The DACC is made up of data proponents who have active modernization projects in process. Since changes that are genuine improvements and pass all the QA checks may still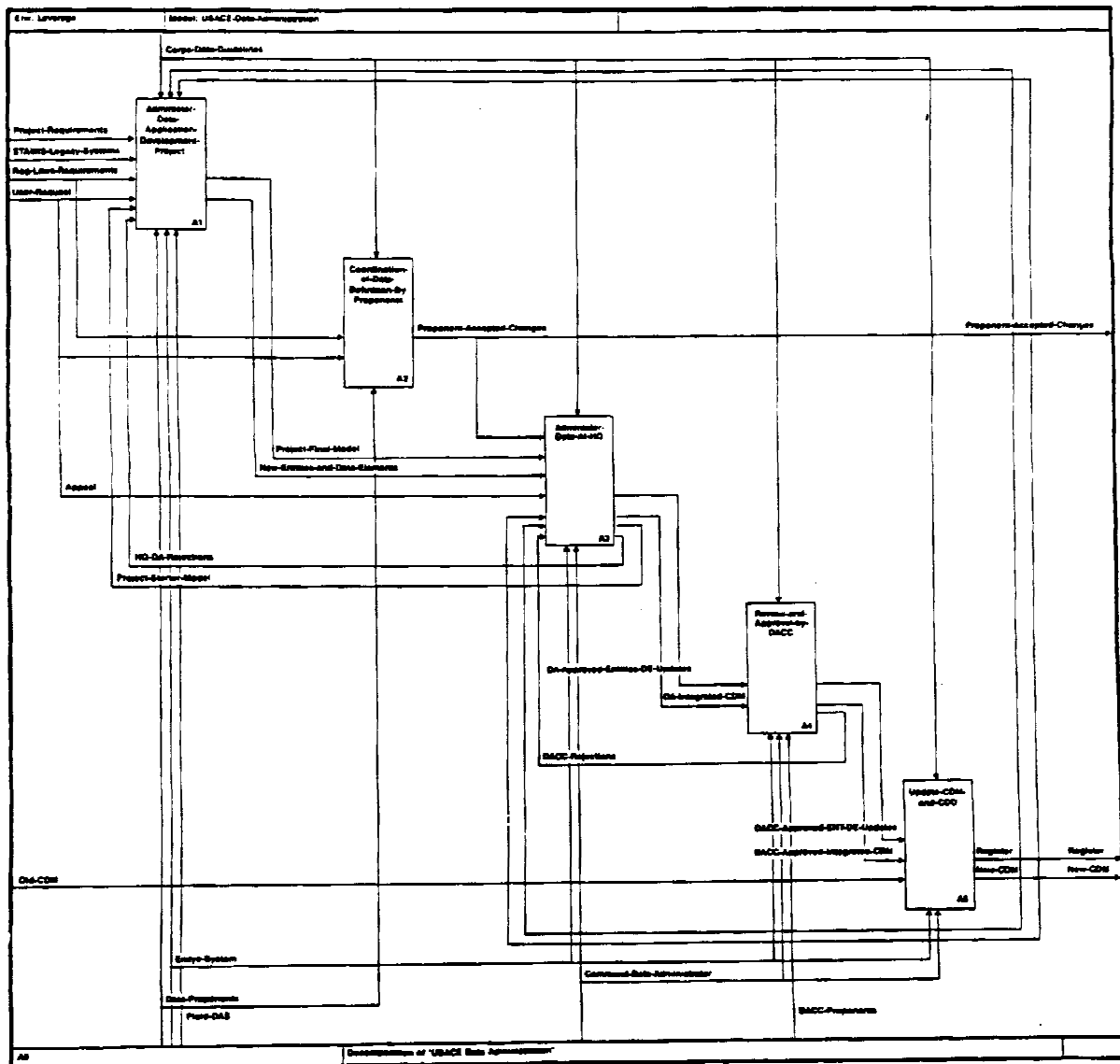 have impact on existing users, the DACC must evaluate the benefits versus the impact of these changes (activity A4). The DACC is the user's checkpoint.

   i.   When the DACC approves a set of changes or a new CDM, the Command Data Administrator makes the updates in the Encyclopedia and a new CDM is available online (activity A5). Periodically, an updated EP 25-1-6 is released that summarizes major milestones in the evolution of the CDM/CDD.

ENV: LEVERAGE	MODEL: USACE-DATA-ADMINISTRATION	

CORPS-DATA-GUIDELINES

PROJECT -REQUIREMENTS

STAMIS-LEGACY-SYSTEMS

Manage-
Data-
Administration
for-
USACE

PROPONENT-ACCEPTED-CHANGES

OLD-CDM

REGISTERED-ENTITLES-DATA-ELEMENTS

REG-LAWS-REQUIREMENTS

NEW-CDM

USER-REQUEST

A0

COMMAND-DATA-ADMINISTRATOR
FIELD-DAS
ENCYC-SYSTEM
DACC-PROPONENTS
DATA-PROPONENTS

CONTEXT FOR DIAGRAM AO	USACE DATA ADMINISTRATION	

**Figure 3-1: Manage Data Administration for the
U.S. Army Corps of Engineers (USACE)**

Context Diagram

Figure 3-2: Manage Data Administration for the
U. S. Army Corps of Engineers (USACE)

Decomposition Diagram

ID	ACTIVITY NAME	DESCRIPTION
Al	Administer-Data-at-Application-Development-Project	The administration of data at the MSC (Division, District, or other) or HQ directorate as part of an Information System Project. The range of activities goes from requesting change of a data element definition to developing a full scale Project Final Model.
A2	Coordination-of-Data-Definition-by-Proponents	The proponents who are responsible for their business areas coordinate changes to the CDM or CDD that are requested, implied, or demanded
A3	Administer-Data-at-HQ	The administration and integration of Corps' data definitions, structure, and usage. This will include review of proposed new data entities and data elements, mediating different viewpoints, registering the data entities and data elements, integrating new models, as well as administering the change procedures, and chairing the Data Architecture Control Committee (DACC). Project Starter Data Models may also be generated for new IS projects.
A4	Review-and-Approval-by-DACC	The DACC Proponents review proposed new entities, data elements, and models, as well as changes to the Command Data Model and the Command Data Dictionary.
A5	Update-CDM-and-CDD	The actual encyclopedia metadata defining the CDM and the CDD are updated, and appropriate diagrams and reports are published.

Figure 3-3: Activity Descriptions

ICOM NAME	DESCRIPTION
Appeal	An Appeal may be generated by a user or IM person when the proponent of an entity or business area rejects his proposed change. This usually occurs across business areas. The appeal goes to the Corps Data Administrator who will consider it and process it through the full DACC, if appropriate.
CORPS-Data-Guidelines	The regulations and guidelines issued by USACE HQ to implement the Corps' data management policy.
Command-Data-Administrator	The headquarters office responsible for recommending Data Administration policies, preparing guidelines, and providing support to the MSCs in their staffing and operation of the Data Administration function. This Command DA is also responsible for the management of the Corps' Data Encyclopedia, providing starter models to IM projects, registering entities and data elements within the Corps', acquiring Army approval where required, maintaining the Command Data Model and Dictionary, as well as integrating new MSC models into the CDM.
DA-Approved-Entities-DE-Updates	Updates to Data Entities and Data Elements that have been reviewed by the HQ Data Administrator and approved. They must yet be reviewed and approved by the DACC before they are officially incorporated into the CDM.

Figure 3-4: ICOM Descriptions

ICOM NAME	DESCRIPTION
DA-Integrated-CDM	A CDM that integrates some new entities, data elements, or Project Final Models with the current version of the CDM. It is not yet the new version of the CDM until the DACC reviews and approves it.
DACC-Approved-Ent-DE-Updates	Updates to the current entities and data elements of the CDM that have been approved by the DACC for inclusion in the next update.
DACC-Approved-Integrated-CDM	An integrated CDM including changes and new Project Final Models that has been reviewed and approved by the DACC.
DACC-Proponents	Those data proponents who serve as voting members of the DACC for the resolution of definition issues and who review and approve CDM updates.
DACC-Rejections	These are proposed model entity or data element changes whose impact is considered untenable at the present time.
Data-Proponents	Functional users who are designated by their directorates or MSCs as the individual (or office) responsible for the defininon of data that is assigned to that office for caretaking.

Figure 3-4: ICOM Descriptions (cont'd)

ICOM NAME	DESCRIPTION
Encyclopedia-System	The software, supporting hardware, and network that provide a repository for the metadata about the Corps' data. The Encyclopedia System includes PC Modeler, the Host Encyclopedia modules, and the Leverage model analysis package. There is a central repository in an SQL relational database accessed through a nationwide network.
Field-DAs	Data Administrators at the Divisions, Districts, or HQ Directorates who support users and IM staff in the definition and sharing of data. They are particularly involved in new application development and upgrading of legacy systems.
HQ-DA-Rejections	These are proposed model entity or data element changes that do not pass quality assurance checks.
New-CDM	The newest , now the current, version of the CDM which has been updated with the DACC approved changes or new model integrations.
New-Entities-and-Data-Elements	Updated Entities and Data Elements (or their metadata) that have been added to the CDM/CDD following approval by the DACC.
Old-CDM	The current, or previously current version, of the CDM that will be changed or expanded.

Figure 3-4: ICOM Descriptions (cont'd)

ICOM NAME	**DESCRIPTION**
Project-Final-Model	An IDEF, fully attributed, data model which represents the final result of the conceptual design phase of a project
Project-Requirements	The requirements of the users, or requirements inherent in the business process, for data to be stored and possibly shared.
Project-Starter-Model	A selected subset of the Command Data Model extracted to provide an application development project with a nucleus of registered and defined data entities and data elements. The purpose is to facilitate data sharing and to assure consistency of data structure and definition.
Proponent-Accepted-Changes	Proposed changes to entities, data elements, and relationships that have been reviewed by proponents and are being forwarded to the Command Data Administrator for a quality assurance check and final approval by the DACC.
Proponent-Rejection	A requested change to the CDM or CDD that a data proponent has rejected as not consistent with the intent and meaning of the data for which he is the shepherd.
Reg-Laws-Ext-Agency-Requirements	Requirements from new or revised laws, regulations, or external agency requirements.

Figure 3.4: ICOM Descriptions (cont'd)

ICOM NAME	DESCRIPTION
Registered-Entities-Data-Elements	Entities and data elements that have been quality checked by the Command Data Administrator and whose status has then been raised to Registered.
STAMIS-and-Legacy- Systems-Requirements	Requirements imposed on the data entities, data elements, or structure imposed by STAMIS or legacy systems.
User-Request	Requests from users for additions or changes to the CDM or CDD.

Figure 3-4: ICOM Descriptions (cont'd)